ABSENCE INDICATION FOR A SPORTING GOOD

Field of The Invention

The field of the invention is absence notifiers.

Background of The Invention

Sporting goods manufacturers invest large amounts of money into research and development in order to develop more effective sporting goods. While the result of the R&D may be more effective products, the price tag of such items reflects the money being spent. Golf clubs, tennis rackets, baseball bats, fishing poles and so on can be extremely expensive. Because of the high expense of these items, various types of security devices have been developed to prevent loss due to theft. U.S. Patent 5041815, for instance, teaches a weight sensitive switch for a golf bag. When the bag is removed from contact with the switch, an alarm sounds. While the device taught by the '815 patent may be an effective deterrent to theft of a golf bag, it is insufficient to prevent theft of individual golf clubs or other items which may be removed from the bag without removing the entire bag.

It is known to prevent loss of individual items by sensing movement. U.S. Patent 5610585 teaches a shock sensor which is placed around golf clubs in a golf bag. If movement or vibration is detected, an electrically powered alarm is activated. Since the alarm is electrically powered, a power source is required. A particular disadvantage with an electrically powered alarm is that it requires the presence of a power source. Not only does a power source add weight to the bag, but it also requires that the batteries be maintained. This problem is exacerbated by the fact that golf bags are often left for many months without use. Additionally, electrically powered audible and visual indicators are often distracting to other golfers. The same can be said of the alarms taught by U.S. Patents 5028909 and 4042918, which use LEDs and light bulbs respectively to indicate removal of a golf club. While such alarms may be useful to prevent theft, they are of little practical use to prevent loss due to misplacement or forgetfulness.

Thus, there is a need for a device directed toward providing a simple and unobtrusive reminder that an item has been removed from a bag.

Summary of the Invention

The inventive subject matter is directed toward an absence indication system for a sporting good such as a golf club stored in a sleeve in a golf bag. As the golf club is removed, an upwardly biased mechanism is actuated thereby causing a visual indicator to be raised.

Methods of detecting the absence of a sporting good include the steps of providing an upwardly biasing mechanism in mechanical relationship to a visual indicator, and actuating the biased mechanism as a function of removal of the golf club. Actuating of the biased mechanism causes the visual indicator to be raised.

Various objects, features, aspects and advantages of the present invention will become more apparent from the following detailed description of preferred embodiments of the invention, along with the accompanying drawings in which like numerals represent like components.

Brief Description of The Drawings

Fig. 1 is a schematic of an absence indication system for a golf bag.

Fig. 2 is a schematic of an absence indication system having a flag as an indicator.

Fig. 3 is a schematic of an absence indication system having a folded flag with a spring hinge.

Detailed Description

Referring first to **Fig. 1**, an absence indication system 100 generally comprises a bag 110, a plurality of sleeves, and a spring 132. For purposes of clarity, only one of the plurality of sleeves is depicted in detail, however, it should be understood that the details with respect to sleeve 120 are also applicable to the other sleeves. The configuration depicted in Fig. 1 shows sleeve 120 extending above the other sleeves thereby indicating that the golf club, which is stored in sleeve 120 is not present.

Bag 110 is a golf club bag, which is sized and configured to hold golf clubs and other golf related items. A bag, however, may be sized and configured to hold some other sporting goods item, such as baseball bats, fishing poles, hockey sticks, and so on. The only requirement is that the item of sporting goods should be capable of fitting into an elongated tube, which is housed within the bag.

A preferred sleeve has a circular cross-section, is elongated in shape, and is constructed from a material that has a low thermal conductivity. Sleeve 120 is constructed of a relatively stiff thermoplastic (e.g. polyvinyl chloride), but it may be constructed of other appropriate materials so long as the material is sufficient for the function(s) of the sleeve. While a sleeve is generally used to store a sporting good in an upright configuration, the sleeve may have other functions including providing a housing for a visual indicator and functioning as a visual indicator itself.

A visual indicator (or absence indicator) is a physical (*i.e.* tangible) object that communicates the absence of an item from the sleeve. A preferred visual indicator does not need electricity in order to function. While a visual indicator may be the sleeve itself (or something attached to or extending from the sleeve), the visual indicator is more than just an empty sleeve. That is, when the sleeve itself is used as a visual indicator, the sleeve is in a raised configuration as compared to the other sleeves. Fig. 1 shows sleeve 120 raised by a length represented as 122. A sleeve or other visual indicator should be raised by a substantially noticeable amount such as 2 cm. or more.

While the raised item generally functions as the visual indicator, it may also be advantageous to identify the particular item that is missing. This can be done by using colors or other indicia including the name of a person, a particular club type, a particular size, weight, and so on. When using color to distinguish which item has been removed, a color coated ring 125 can be used. So, for example, a red ring can represent a putter, a blue ring can represent a 9 iron, etc.... Alternatively or additionally, a portion of the sleeve can be color coated. In marking a ring or a sleeve, it is contemplated that stickers or decals can be used and of course the material itself can be manufactured to a particular color. Identifying

rings can be sold separately and can be designed in sizes that are appropriate for application to standard sized sleeves.

A preferred upwardly biased mechanism is a stainless steel spring 132 housed within an outer tube 130. The spring 132 operates to raise a visual indicator without the use of electrical power. An upwardly biased mechanism can also be a tension bar or other known mechanical means of raising the visual indicator. It should be recognized that an upwardly biased mechanism operates without electrical power to cause a visual indicator to be raised. An upwardly biased mechanism typically moves between a compressed configuration in which the sporting good is present and a decompressed or extended configuration in which the sporting good is absent. "Upward" as used herein is indicated by the direction of arrow 140. A simple embodiment can include a low-tension spring that is compressed by the weight of the sporting good. It should be recognized that a golf club typically weighs at least 360 g. and therefore, a low-tension spring (for a golf club application) should compress under 360 g. As the good is removed, the low-tension spring is actuated and thereafter the sleeve or other visual indicator is raised. In another class of embodiments, an upwardly biased mechanism can have locked and unlocked configurations. In the locked configuration, the upwardly biased mechanism is being held in a compressed position (*e.g.* by a pin) and in the unlocked configuration, the upwardly biased mechanism is free to decompress. It is contemplated that both locking and unlocking may be accomplished by pressing down on the sporting good or on the sleeve.

Drawing your attention to **Fig. 2**, an absence indication system 200 shows a golf club 210, a flag 220, a spring extension 230, a sleeve 240, a spring 250, and a spring cap 260.

Spring extension 230 is depicted as an extension of the spring, however, it should be noted that the spring extension can be a separate component. In any case, as the club 210 is lifted from the sleeve 240, the spring 250 decompresses causing the flag 220 to be raised. Thus, although the club is shown in Fig. 2, the position of the flag indicates the absence of a club. Of course, the flag 220 would be stored in the sleeve 240 when the full weight of the golf club causes the spring to be compressed.

In **Fig. 3,** an absence indication system 300 shows a golf club 310, a flag 320, a spring hinge 325, a spring extension 330, a sleeve 340, a spring 350, and a cap 360.

An important aspect of the system depicted in Fig. 3 is that the height of the visual indicator (above the top of the bag) can be increased. Increase in the height is accomplished by adding the spring extension 330. In an embodiment that does not use a hinged extension, the height of the visual indicator is limited by the rise in the spring as it decompresses. Here, however, the height of the visual indicator is increased by "folding" the spring extension 330 at the spring hinge 325.

Methods of detecting the absence of a sporting good from a bag include the steps of providing an upwardly biasing mechanism in mechanical relationship with an absence indicator, actuating the biasing mechanism as a function of removal of the sporting good, and raising the absence indicator.

With regard to the step of providing an upwardly biasing mechanism, the mechanism is in mechanical relationship with an absence indicator. As used herein, "mechanical relationship" means that there are no electrical connections that need to be established in order to raise the absence indicator. Raising of the absence indicator is generally accomplished by decompressing a spring or other upwardly biasing mechanism.

Actuating as used herein means set into motion. Thus, actuating the biasing mechanism means setting the mechanism into its upward motion. In preferred embodiments, the upwardly biased mechanism is actuated by removal of the sporting good, however, there are other ways of actuating the mechanism such as by exerting a downward pressure on the sporting good or on the sleeve.

Thus, specific embodiments and applications of an absence indication for a sporting good have been disclosed. It should be apparent, however, to those skilled in the art that many more modifications besides those already described are possible without departing from the inventive concepts herein. The inventive subject matter, therefore, is not to be restricted except in the spirit of the appended claims. Moreover, in interpreting both the specification and the claims, all terms should be interpreted in the broadest possible manner

consistent with the context. In particular, the terms "comprises" and "comprising" should be interpreted as referring to elements, components, or steps in a non-exclusive manner, indicating that the referenced elements, components, or steps may be present, or utilized, or combined with other elements, components, or steps that are not expressly referenced.